

The transmission of high speed data over power distribution lines is a bad idea. The technology utilizes frequencies which are used by many services, including the military and amateur radio. If power lines were installed in such a way as to maintain a constant transmission line impedance, it would be practical to contain the fields of these data transmissions. In fact, power lines not only have widely varying impedances, but many taps (laterals), capacitor banks, transformers, risers, and switched feeder loops which are nearly impossible to characterize in the HF spectrum where BPL operates. The idea for BPL obviously originated with the current carrier communications systems utilized in power transmission lines. Transmission lines are far better impedance matched than distribution lines and utilize traps to contain the carrier signals. There is also the issue of distance between power conductors in wavelengths. Current carrier systems operate below 500 kHz, where the wavelength is long compared to interline spacing. In the HF spectrum the interline spacing approaches a substantial portion of a wavelength. They will thus function as effective antennas. This, coupled with standing waves along the lines, will lead to both ingress and egress of unwanted interference. Even with spread spectrum techniques in use, the noise floor on HF receivers will be raised to an unacceptable level.